

<b>SANYO</b>	No.751C	<b>2SD1111</b>
	NPN Epitaxial Planar Silicon Darlington Transistor	
<b>Driver Applications</b>		

**Applications**

- Motor drivers, printer hammer drivers, relay drivers, voltage regulator control

**Features**

- High DC current gain (5000 or greater).
- Large current capacity and wide ASO.
- Low saturation voltage ( $V_{CE(sat)}=0.8V$  typ).

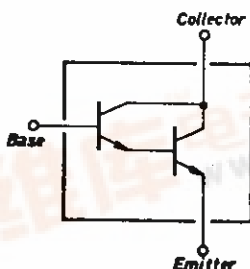
**Absolute Maximum Ratings at  $T_a=25^\circ C$**

			unit
Collector to Base Voltage	$V_{CBO}$	80	V
Collector to Emitter Voltage	$V_{CEO}$	50	V
Emitter to Base Voltage	$V_{EBO}$	10	V
Collector Current	$I_C$	0.7	A
Collector Current(Pulse)	$I_{CP}$	2	A
Collector Dissipation	$P_C$	600	mW
Junction Temperature	$T_J$	150	$^\circ C$
Storage Temperature	$T_{stg}$	-55 to +150	$^\circ C$

**Electrical Characteristics at  $T_a=25^\circ C$**

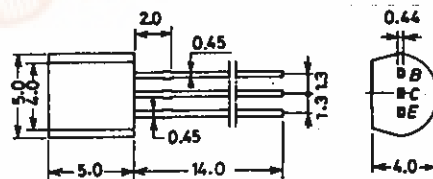
			min	typ	max	unit
Collector Cutoff Current	$I_{CBO}$	$V_{CB}=40V, I_E=0$			0.1	$\mu A$
Emitter Cutoff Current	$I_{EBO}$	$V_{EB}=8V, I_C=0$			0.1	$\mu A$
DC Current Gain	$h_{FE(1)}$	$V_{CE}=2V, I_C=50mA$	5000			
	$h_{FE(2)}$	$V_{CE}=2V, I_C=500mA$	4000			
Gain-Bandwidth Product	$f_T$	$V_{CE}=5V, I_C=50mA$		200		MHz
Output Capacitance	$c_{ob}$	$V_{CB}=10V, f=1MHz$		10		pF
C-E Saturation Voltage	$V_{CE(sat)}$	$I_C=100mA, I_B=0.1mA$		0.8	1.2	V
B-E Saturation Voltage	$V_{BE(sat)}$	$I_C=100mA, I_B=0.1mA$		1.3	2.0	V
C-B Breakdown Voltage	$V_{(BR)CBO}$	$I_C=10\mu A, I_E=0$	80			V
C-E Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA, R_{BE}=\infty$	50			V
E-B Breakdown Voltage	$V_{(BR)EBO}$	$I_E=10\mu A, I_C=0$	10			V

**Electrical Connection**



**Package Dimensions 2003A**

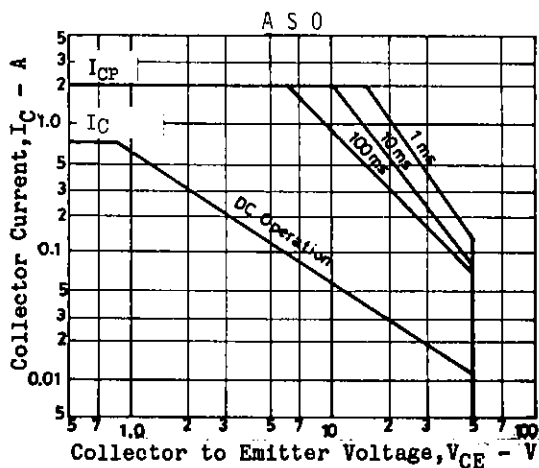
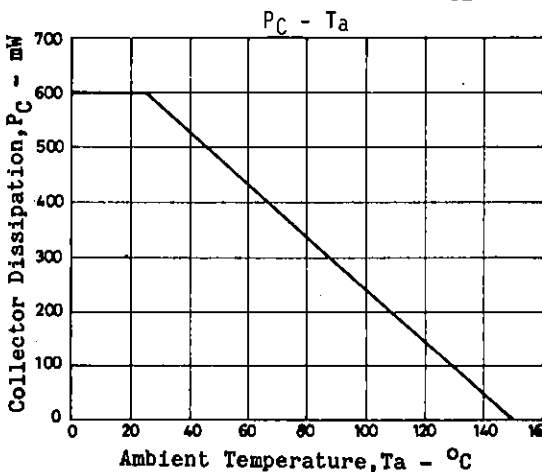
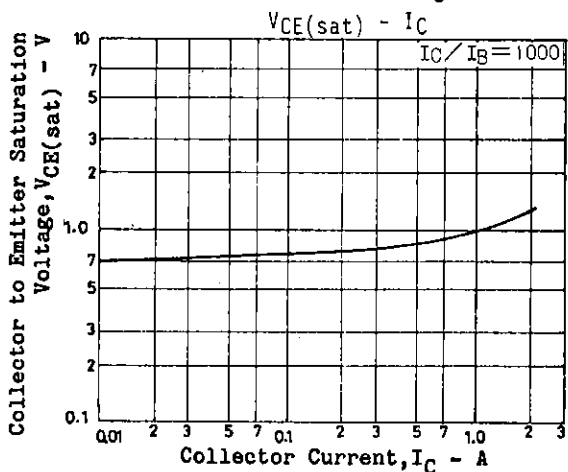
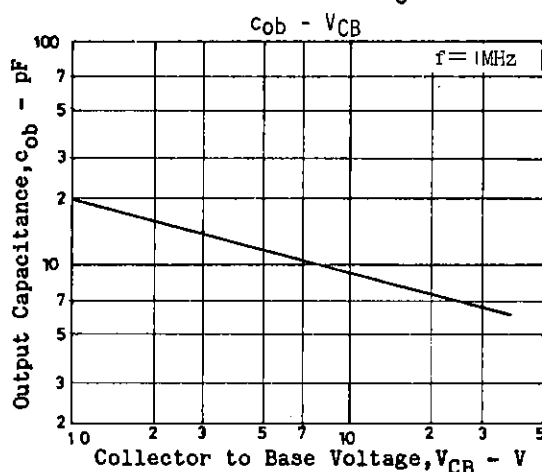
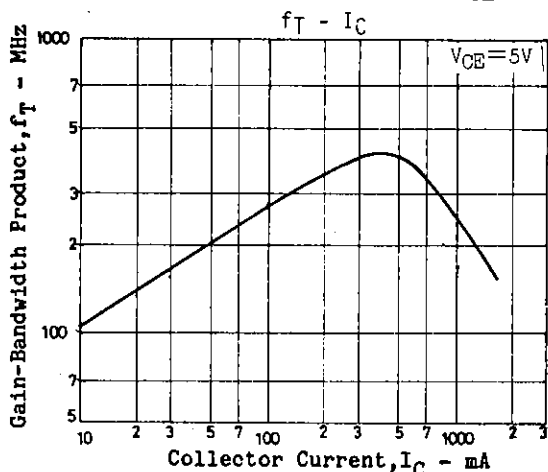
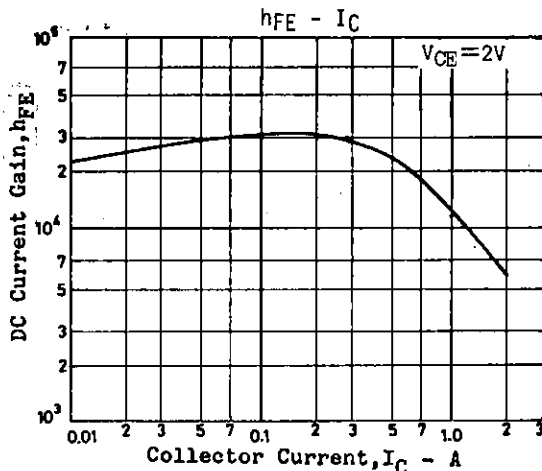
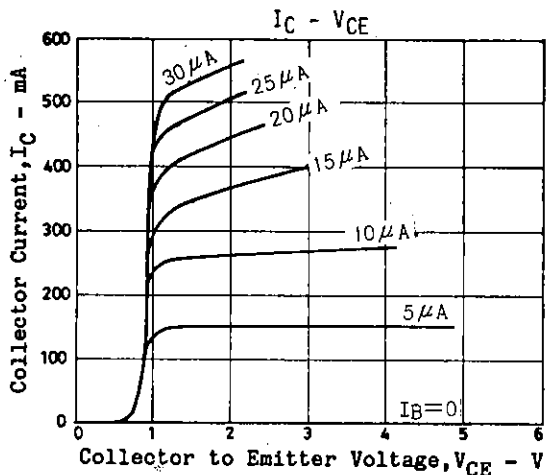
(unit: mm)



JEDEC: TO-92  
EIAJ: SC-43  
SANYO: NP

B. Base  
C. Collector  
E. Emitter





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